

PSYCHE

VOL. XXII

APRIL, 1915

No. 2

A NEW TRICHODECTES FROM THE GOAT.

By VERNON L. KELLOGG AND SHONOSUKE NAKAYAMA,
Stanford University, California.

The domestic goat has long been known to harbor a Mallophagan (biting louse) species peculiar to it and to one or two related wild forms, most notably the chamois. This parasite, *Trichodectes climax*, was recognized by Nitzsch a century ago, and has since been recorded from domestic goats in all part of the world. It is a cosmopolitan parasite species because its host is cosmopolitan.

Also it is the only *Trichodectes* until now found on the domestic goat. It is characteristic of the goat just as another *Trichodectes* species, *spharocephalus*, is characteristic of a certain nearly related host, the domestic sheep and two or three of its wild congeners, (*Ovis ornata*, *O. melanocephala*, et al.). So far sheep have not been found to harbor any other Mallophagan than *T. spharocephalus*.

But the goat, at least certain individuals of the merino goat, living in California, do afford food and shelter to another and larger species of *Trichodectes* than the long-known and widespread *climax*. This species we are describing in this paper.

The specimens of the new species (many males and females) were received this month (November) from Professor W. B. Herms of the University of California, who took them from a "young merino goat received from near Inverness, Marin County, California." Professor Herms reports the goat as "very badly infested," adding in a later letter, that he has "never before seen an animal so badly infested with biting lice as is the goat in our possession, and I am told other goats in the flock from which this one was taken are equally infested."

The new species is unusually large for a *Trichodectes*, the females being more than two millimeters in length (some individuals almost $2\frac{1}{2}$ mm.), the males not quite so long. *T. climax* hardly

attains a length of one and a half millimeters. In the shape of head and abdomen, the curious covering of short, fine spiny hairs, and in the markings, the new species differs strongly from *climax*. It shows more of a resemblance, in shape and markings of head, and general appearance of body to *T. penicillatus* than to any other species of the genus, which resemblance, if it suggests any near relationship—it probably does not—is most extraordinary, as *penicillatus* has been recorded only from a kangaroo! However, it has been recorded but once, and that by Piaget, its describer, who had his specimens from a single kangaroo (*Macropus penicillatus*) in the Zoölogical Garden at Rotterdam. Zoölogical garden specimens of Mallophaga are always open to suspicion as to the host records, the conditions, especially in such a crowded garden as I remember the Rotterdam one to be, being unusually favorable for straggling. However, the resemblances between *T. penicillatus* and our new species from the goat may be only superficial and non-significant of relationship. The new species may be described as follows:

Trichodectes hermsi sp. nov. (Fig. 1).

Many males, females and young from a young merino goat, Inverness, Marin Co., Calif. (coll. W. B. Herms).

Female: Body, length 2.4 mm., width (widest across fifth abdominal segment), 1.32 mm., head, length .44 mm., width .57 mm. General color pale yellowish brown, the head and thorax and the median abdominal blotches darker than the almost whitish ground color of the abdomen. Dorsal surface of the whole body with a sparse covering of short, fine, spine-hairs. In addition there are longer hairs along the lateral margins and in regular segmental transverse series on the abdomen.

The head is broader than long, the region behind the antennae being distinctly and suddenly broader than the part in front. The clypeal margin is flatly convex, and the occipital margin shallowly concave. The antennae are long enough to reach, if bent directly backward, to the hind lateral angles of the head, but no farther than that. The head is uni-colored, showing no markings except the slightly darker narrow margin all around, and a pair of short, distinct narrow bands (more like small linear blotches) extending from base of antennae to the clypeal margin. Several not long hairs in each temporal angle and the whole head sparsely covered with short, fine spine-hairs.

Prothorax with sharply produced, conspicuous lateral angles, with a group of five or six rather strong, although not long, hairs in each angle. It is much wider than long, as is also the metathorax which is about the same width as the prothorax, but is a little longer. The metathorax has a doubly angulated posterior margin, with the median portion concave. There are numerous longish stiff hairs along the postero-lateral margins of the segment, and a transverse dorsal series of a dozen or

more hairs across the segment near the posterior margin. The legs have the single tarsal segment unusually long and distinct, and the tibiae bear numerous short but distinct and sharp spine-hairs.

The abdomen is large and thick, symmetrically elliptical with broad ends, and covered sparsely with minute pointed spine-hairs. There is also a transverse series of longer but fine spine-hairs across the dorsal surface of each segment just in front of the posterior margin of the segment. There are numerous longer hairs on the lateral margins of each segment, and a brush of longish hairs on the posterior margin of the last segment. At each side of the next to last segment there is a chitinized backward-projecting, pointed process, slightly curved and angulated in the middle, with the convexity on the outside. The ground color of the whole abdomen is pale yellowish-white, of more golden color along the lateral margins, and with a series of seven brownish median blotches, largest and darkest on segments 7 and 8. The next to the last segment is nearly covered by two pale translucent, brownish blotches, partly fusing on their inner faces.

Male: Body, length 1.68 mm., width .61 mm., head, length .34 mm., width .47 mm.; thus much smaller than the female, and with abdomen with sides more nearly parallel, converging posteriorly. The head is a little different in shape, the anterior, or clypeal, portion not extending so far in front of the antennae and more flatly rounded. The genitalia show distinctly through the body-wall, although they are not heavy or strongly chitinized. The parameres are long, narrow and pointed.

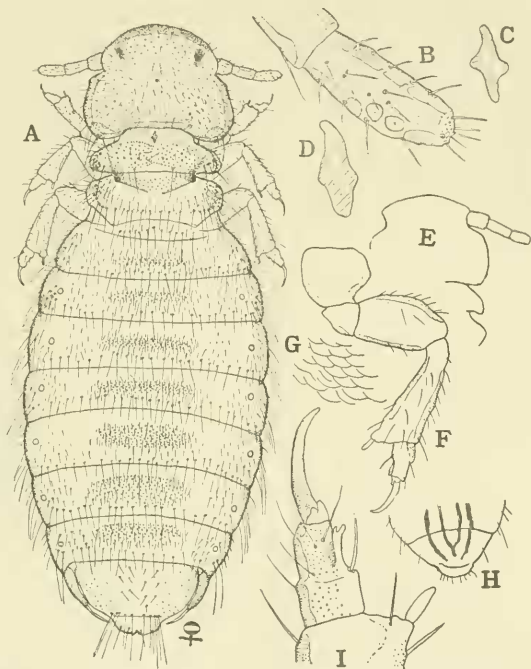


Fig. 1. *Trichodectes hermsi* n. sp.; A, female; B, last antennal segment of female, showing sense pits; C, small chitinized sclerite at middle of occipital margin of head of male; D, same of female; E, outline of head of male; F, hind leg of female; G, part of abdominal body-wall showing scaly covering; H, tip of abdomen of male, showing genitalia; I, tarsus and tarsal claw of hind leg of female.